AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-16 (Canceled)

17. (Previously Presented) Imaging apparatus comprising:

a radiation source for generating an imaging beam;

a detector responsive to the imaging beam to generate image signals and comprising an array of pixels arranged in rows and columns, each pixel being responsive to incident radiation to generate an output signal;

a drive arranged to move the radiation source and the detector relative to a subject in a scanning direction;

an adjustable collimator arranged to vary the width of the imaging beam in the scanning direction; and

a control system responsive to adjustment of the collimator to combine the output signals of groups of pixels comprising greater numbers of pixels automatically as the collimator is adjusted to increase the width of the imaging beam in the scanning direction, thereby to increase the contrast resolution of the image signals for a given spatial resolution.

18. (Previously Presented) Apparatus according to claim 17 wherein each group of pixels defines a super pixel comprising an array of fundamental pixels, the number of fundamental pixels in the array being selected according to a corresponding collimator setting.

19. (Previously Presented) Apparatus according to claim 18 wherein the relationship between collimator settings and the number of fundamental pixels in an array defining a super pixel is stored in a lookup table and related to respective ones of a plurality of different x-ray procedures.

20. (Previously Presented) Apparatus according to claim 17 wherein the control system is arranged to measure the signal level of the detected imaging beam and to adjust the collimator slit width to maintain the detected signal level at or close to a desired setpoint.

21. (Previously Presented) A method of operating imaging apparatus of the kind having a radiation source and an associated detector which are moveable relative to a subject, the method comprising:

generating an imaging beam from the radiation source;

moving the radiation source and the detector relative to a subject in a scanning direction to generate output signals from each of a plurality of pixels of the detector;

adjusting a collimator to vary the width of the imaging beam in the scanning direction;

detecting the setting of the collimator; and

combining the output signals of groups of two or more pixels according to the setting of the collimator, thereby to optimize a selected characteristic of the image signals.

22. (Currently Amended) A method according to claim **[[20]]** 21 comprising combining the output signals of groups of pixels comprising greater numbers of pixels as the collimator is adjusted to increase the width of the imaging beam in the scanning direction, thereby to increase the contrast resolution of the image signals for a given spatial resolution.

23. (Previously Presented) A method according to claim 21 wherein each group of pixels defines a super pixel comprising an array of fundamental pixels, the number of fundamental pixels in the array being selected according to a corresponding collimator setting.

24. (Previously Presented) A method according to claim 21 wherein the relationship between collimator settings and the number of fundamental pixels in an array defining a super pixel is stored in a lookup table and related to respective ones of a plurality of different x-ray procedures.

25. (Previously Presented) A method according claim 21 including measuring the signal level of the detected imaging beam and adjusting the collimator slit width to maintain the detected signal level at or close to a desired setpoint.

26. (Currently Amended) A collimator for adjusting the effective width of an imaging beam generated by a radiation source, the collimator comprising:

first and second shutter elements arranged side by side ~~to define~~ and including respective first and second tapered surfaces, and further including respective first and second slit-forming surfaces forming therebetween a slit through which radiation emitted by the source can pass, the slit having a length and a width of shorter dimension than the length, the width defined by a distance between the slit-forming surfaces;

~~a drive arranged to move the shutter elements in a direction parallel to the slit; and~~

a guide mechanism comprising first and second tapered surfaces arranged to cooperate with respective ones of the first and second tapered surfaces on the first

and second shutter elements; and ~~so that operation of the drive varies the width of the slit.~~

a drive mechanism arranged to produce first sliding movement between the first tapered surface of the first shutter element and the first tapered surface of the guide mechanism, and second sliding movement between the second tapered surface of the second shutter element and the second tapered surface of the guide mechanism, to cause the first and second slit-forming surfaces to move relative to one another in the direction of the slit's width to vary the dimension of that width.

27. (Currently Amended) A collimator according to claim 26 wherein the imaging beam is directed towards a detector, the drive mechanism comprising a single motor that produces both of the first and second sliding movements, wherein both of the shutter elements are arranged to move co-centrically with respect to a centre line that passes through the ~~gap between them~~ slit along the slit's length, to obtain an optimum umbra to penumbra ratio of the ~~x-ray~~ imaging beam on the detector.

28. (Currently Amended) A collimator according to claim 26 wherein each shutter element comprises a strip of radiation-opaque material defining the respective slit-forming surface, and a supporting body carrying the respective strip and defining the respective tapered surface.

29. (Currently Amended) A collimator according to claim 26 wherein the drive mechanism comprises a motor, a **[[**and**]]** reduction drive **[[**with**]]** connected to

the motor, and a mechanism connected to the reduction drive and arranged to impart linear motion to both shutter elements to effect the first and second sliding movements.

30. (Currently Amended) A collimator according claim 26 wherein the **[[**drive**]]** motor comprises a solenoid.

31. (Currently Amended) A collimator according claim 26 wherein the first and second tapered surfaces of the first and second shutter elements are biased towards ~~a position in which the width of the slit is a~~ one another, wherein the drive mechanism is operable to move those first and second tapered surfaces away from one another against the bias.